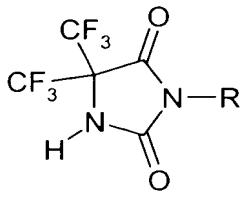
Claims

What is claimed is:

1. A hydantoin of formula I



I

wherein R is a residue of an amino carboxylic acid or of an amino carboxylic acid derivative, which is obtained formally by removing an NH_2 group from an amino carboxylic acid or an amino carboxylic acid derivative, or a salt thereof, or a stereoisomer thereof, or a tautomer thereof.

2. The hydantoin of claim 1, wherein R contains at least one carboxylic acid group.

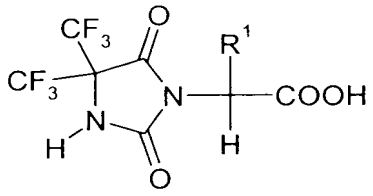
3. The hydantoin of claim 1, wherein the amino carboxylic acid derivative is selected from the group consisting of esters, amides, nitriles, aldehydes, and primary alcohols.

4. The hydantoin of claim 3, wherein the amino carboxylic acid derivatives is selected from the group consisting of esters and amides.

5. The hydantoin of claim 1, wherein R is the residue of an α-amino

carboxylic acid, an α-amino carboxylic acid derivative, a β-amino carboxylic acid, a β-amino carboxylic acid derivative, a γ-amino carboxylic acid, a γ-amino carboxylic acid derivative, an aromatic amino carboxylic acid, or a derivative of an aromatic amino carboxylic acid.

6. The hydantoin of formula I as claimed in claim 1, which is a compound of formula Ie:



Ie

or a compound wherein the carboxylic acid group in formula Ie and/or other carboxylic acid groups are converted into carboxylic acid derivatives;

wherein R^1 is hydrogen or an unsubstituted or substituted residue selected from the group consisting of $(C_1\text{-}C_6)$-alkyl, $(C_2\text{-}C_6)$-alkenyl, $(C_2\text{-}C_6)$-alkynyl, $(C_3\text{-}C_7)$-cycloalkyl, $(C_3\text{-}C_7)$-cycloalkyl-$(C_1\text{-}C_4)$-alkyl, $(C_6\text{-}C_{12})$-aryl, $(C_6\text{-}C_{12})$-aryl-$(C_1\text{-}C_4)$-alkyl, heteroaryl and heteroaryl-$(C_1\text{-}C_4)$-alkyl, or a salt thereof.

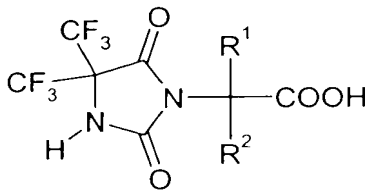
7. The hydantoin of claim 6, wherein R^1 is $(C_1\text{-}C_6)$-alkyl, $(C_3\text{-}C_7)$-cycloalkyl or $(C_3\text{-}C_7)$-cycloalkyl-$(C_1\text{-}C_4)$-alkyl.

8. The hydantoin of claims 7, wherein R^1 is isobutyl or cyclopropylmethyl.

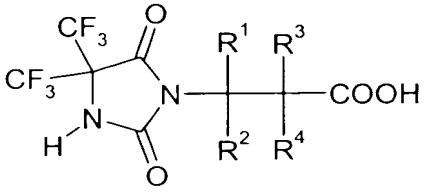
9. The hydantoin of claim 7 , wherein the carbon atom carrying the R^1 residue has an S configuration.

10. The hydantoin of claim 1, wherein the carboxylic acid derivative is a $(C_1\text{-}C_6)$-alkyl carboxylate.

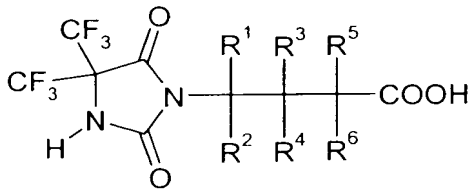
11. The hydantoin of formula I as claimed in claim 1, which is a compound of formulae Ia, Ib, Ic or Id:



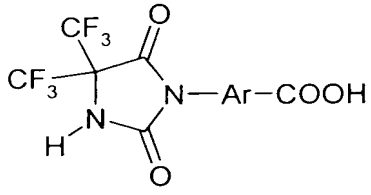
Ia ,



Ib



Ic , or

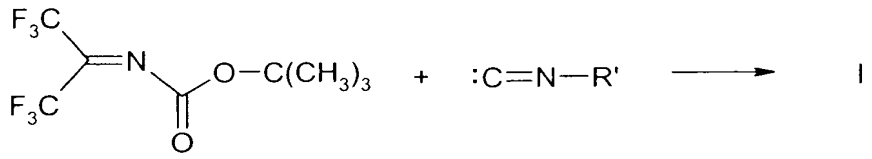


Id

or a compound wherein the carboxylic acid group in formulae Ia, Ib, Ic or Id and/or other carboxylic acid groups are converted into carboxylic acid derivatives;

wherein R^1, R^2, R^3, R^4, R^5 and R^6 are, independent of one another, selected from the group consisting of hydrogen or an unsubstituted or substituted residue selected from the group consisting of $(C_1$-$C_6)$-alkyl, $(C_2$-$C_6)$-alkenyl, $(C_2$-$C_6)$-alkynyl, $(C_3$-$C_7)$-cycloalkyl, $(C_3$-$C_7)$-cycloalkyl-$(C_1$-$C_4)$-alkyl, $(C_6$-$C_{12})$-aryl, $(C_6$-$C_{12})$-aryl-$(C_1$-$C_4)$-alkyl, heteroaryl and heteroaryl-$(C_1$-$C_4)$-alkyl, or a salt thereof.

12. A process for preparing a hydantoin of formula I as claimed in claim 1, which comprises reacting the compound of formula II with a compound of formula III



II III

wherein R' in formula III is a residue of an amino carboxylic acid or of an amino carboxylic acid derivative, which is obtained formally by removing an NH_2 group from an amino carboxylic acid or an amino carboxylic acid derivative, but wherein free carboxylic acid groups are present in the compounds of formula III in esterified form.

13. The process of claim 12, wherein the reaction is carried out in an inert solvent and at a temperature from about 20°C to about 80°C.

14. A process for preparing a pharmaceutically active ingredient derived

from a compound of formula I as claimed in claim 1, which comprises reacting the compound of formula I at a functional group in the residue R with another synthetic building block.

15. The process of claim 14, wherein the pharmaceutically active ingredient comprises a 2,5-dioxo-4,4-bis(trifluoromethyl)imidazolidine ring.